

Application No. 10/828,521
 Reply to Office Action of April 18, 2007

2

Docket No.: ARL 03-01

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A copolymer composition comprising a compound having the formula:



wherein A is a thermoplastic block copolymer including a monomer $\begin{array}{c} (C)_n \\ | \\ RZ \end{array}$; B is polyisobutylene including a monomer $\text{---}(D)_m$; m and n are each independent integers between 10 and 10⁷; R is an oxygen and an element selected from the group consisting of a chalcogen, nitrogen, and phosphorus; and Z is a cation; and RZ is present on over ~~0.7~~ 70 mol percent of the monomer $\begin{array}{c} (C)_n \\ | \\ RZ \end{array}$ in copolymer A to provide an ion exchange capacity of between 1.78 and 2.04 milliequivalents per gram of said compound.

2. (Original) The copolymer composition of claim 1 wherein A is polystyrene.

3-4 (Canceled)

5. (Previously presented) The copolymer composition of claim 1 wherein R is SO₃.

6. (Previously presented) The copolymer composition of claim 1 wherein Z is a cation compatible with R and selected from the group consisting of H, a lanthanide species, an alkaline earth metal and an alkali metal.

Application No. 10/828,521
Reply to Office Action of April 18, 2007

3

Docket No.: ARL 03-01

7. (Original) The copolymer composition of claim 6 wherein Z is Cs.

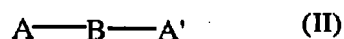
8. (Original) The copolymer composition of claim 1 further comprising a second block A bonded to block B.

9. (Original) The copolymer composition of claim 1 wherein block A is present at levels ranging between 1-99% of the total block copolymer.

10. (Original) The copolymer composition of claim 1 wherein block A is present at levels ranging between 5-90% of the total block copolymer.

11. (Original) The copolymer composition of claim 1 wherein block A is present at levels ranging between 10-70% of the total block copolymer.

12. (Currently amended) A copolymer composition comprising a compound having the formula:



wherein A is a thermoplastic block copolymer including a monomer $\begin{array}{c} (C)_n \\ | \\ PRZ \end{array}$; B is polyisobutylene including a monomer $-(D)_m$; A' is a thermoplastic block copolymer including a monomer $\begin{array}{c} (C)_q \\ | \\ PRZ \end{array}$; m and n are each independent integers between 10 and 10^7 ; R is oxygen and an element selected from the group consisting of a chalcogen, nitrogen, and

Application No. 10/828,521
Reply to Office Action of April 18, 2007

4

Docket No.: ARL 03-01

phosphorus; and Z is a cation; P is a phenyl group, and RZ is present on over ~~0.7(n+q) of P~~ 70

mol percent of the monomer $\begin{array}{c} \text{(C)}_n \\ | \\ \text{PRZ} \end{array}$ and the monomer $\begin{array}{c} \text{(C)}_q \\ | \\ \text{PRZ} \end{array}$ to provide an ion exchange capacity of between 1.78 and 2.04 milliequivalents per gram of said compound.

13. (Cancelled)

14. (Previously presented) The copolymer composition of claim 12 wherein Z is a cation compatible with R and selected from the group consisting of H, a lanthanide species, an alkaline earth metal and an alkali metal.

15. (Original) The copolymer composition of claim 12 wherein R is SO₃.

16. (Original) The copolymer composition of claim 12 wherein Z is selected from the group consisting of: H, Cs, Zn and Na.

17. (Original) The copolymer composition of claim 12 wherein RZ is SO₃H.

18. (Original) The copolymer composition of claim 12 wherein block A is present at levels ranging between 1-99% of the total block copolymer.

19. (Original) The copolymer composition of claim 12 wherein block A is present at levels ranging between 5-90% of the total block copolymer.

Application No. 10/828,521
Reply to Office Action of April 18, 2007

5

Docket No.: ARL 03-01

20. (Currently amended) The copolymer composition of claim 12 wherein block A is present at levels ranging between 10-70% of the total block copolymer A and A'.

21-30 (Cancelled)